

IN THE CLAIMS:

Please amend the claims as follows. For claims not marked as amended in this response, any difference in the claims below and the previous state of the claims is unintentional and is in the nature of a typographical error.

1. (Currently Amended) ~~A Method to maintain~~ A method of maintaining Synchronization Tracking in Time Division Duplex ~~[[TDD]]~~ (TDD) Wireless Communications, the method for use in a terminal of ~~[[UE]]~~ a user equipment (UE) system, ~~characterised in that is comprises~~ wherein the method comprises:

[[a.]] dividing a midamble into two parts, then detecting ~~[[the]]~~ a first ~~[[one]]~~ part and ~~[[the]]~~ a second ~~[[one]]~~ part of the midamble ~~one by one, respectively;~~

[[b.]] ~~[[the]]~~ performing an auto-correlation property operation between the two parts ~~mention~~ above and ~~[[the]]~~ a part corresponding to a local midamble, ~~then two peaks are got;~~

obtaining two peaks from the auto-correlation property operation;

[[c.]] ~~compare~~ comparing the amplitude of the two peaks ~~amplitude;~~ and

[[d.]] ~~confirming to advance or retard~~ advancing or retarding a local ~~time-base~~ timer based on ~~[[the]]~~ a result of the ~~compare~~ comparison.

2. (Currently Amended) ~~The Method to maintain~~ The method of maintaining Synchronization Tracking in TDD Wireless Communications ~~[[of]]~~ as set forth in claim 1 ~~characterised in that wherein~~ [[said]] a sample frequency of detecting the midable is only one time of ~~[[the]]~~ a chip rate of a TD-SCDMA system.

3. (Currently Amended) ~~The Method to maintain~~ The method of maintaining Synchronization Tracking in TDD Wireless Communications ~~[[of]]~~ as set forth in claim 1 ~~characterised in that wherein~~ said midable is divided into two parts having a same length.

4. (Currently Amended) ~~The Method to maintain~~ The method of maintaining Synchronization Tracking in TDD Wireless Communications ~~[[of]]~~ as set forth in claim 2 ~~characterised in that wherein~~ said midable is divided into an odd part and an even part.

5. (Currently Amended) ~~The Method to maintain~~ The method of maintaining Synchronization Tracking in TDD Wireless Communications ~~[[of]]~~ as set forth in claim 4 ~~characterised in that wherein~~ [[said]] a sampling time point for detecting the midable ~~[[are]]~~ is:

$(n - \Omega)T_c$, when n is even; and

$(n + \Omega)T_c$, when n is odd, wherein

n is ~~the location of~~ a chip location, Ω is a value set lower than ~~[[1]]~~ one (1), and T_c is ~~the times of~~ a chip period.

6. (Currently Amended) ~~The Method to maintain~~ The method of maintaining Synchronization Tracking in TDD Wireless Communications ~~[[of]]~~ as set forth in claim 4 ~~characterised in that wherein~~ if ~~[[the]]~~ a peak amplitude of the even part is higher than ~~[[the]]~~ a peak amplitude of the odd part, advance the local timer is advanced by $+T_c/16$, and if ~~[[the]]~~ a peak amplitude of the odd part is higher than ~~[[the]]~~ a peak amplitude of the even part, advance the local timer is advanced by $-T_c/16$.

7. (Currently Amended) ~~The Method to maintain~~ The method of maintaining Synchronization Tracking in TDD Wireless Communications ~~[[of]]~~ as set forth in claim 4, ~~characterised in that wherein~~ when ~~[[the]]~~ a distance between the UE and a Node-B of a TD-SCDMA system is changed because of movement, the UE can make makes a decision after comparing an auto-correlation peak of the odd part and the even part in as many as M subframes, there can be as many as M comparison results, and if a number of positive results ~~[[are]]~~ is more than a set value, then the local timer advances ΩT_c , on the contrary otherwise, the local ~~[[time]]~~ timer retards ΩT_c , wherein a positive result occurs when a peak amplitude of an even part is higher than a peak amplitude of the odd part.

8. (Currently Amended) ~~The Method to maintain~~ The method of maintaining Synchronization Tracking in TDD Wireless Communications ~~[[of]]~~ as set forth in claim 7 ~~characterised in that~~ wherein if neither ~~[[the]]~~ a number of positive or negative results is more than the set value, the local timer remains unchanged, wherein a negative result occurs when a peak amplitude of peak amplitude of an odd part is higher than a peak amplitude of an even part.

9. (Currently Amended) ~~The Method to maintain~~ The method of maintaining Synchronization Tracking in TDD Wireless Communications ~~[[of]]~~ as set forth in claim 7, ~~characterised in that~~ wherein ~~[[said]]~~ the set value is $\left\lfloor \frac{M(1+\Delta)}{2} \right\rfloor$, ~~[[here]]~~ where Δ is a protection margin.

10. (Currently Amended) ~~The Method to maintain~~ The method of maintaining Synchronization Tracking in TDD Wireless Communications ~~[[of]]~~ as set forth in claim 5, ~~characterised in that~~ wherein said Ω is lower than ~~[[1/4]]~~ one fourth (1/4).

11. (Currently Amended) ~~The Method to maintain~~ The method of maintaining Synchronization Tracking in TDD Wireless Communications ~~[[of]]~~ as set forth in claim 9, ~~characterised in that~~ wherein said Δ is ~~[[0.1]]~~ one tenth (0.1).

12. (Currently Amended) ~~The Method to maintain~~ The method of maintaining
Synchronization Tracking in TDD Wireless Communications ~~[[of]]~~ as set forth in claim 1,
~~characterised in that~~ wherein said midable is the downlink synchronization.

13. (Currently Amended) A terminal of ~~UE System~~ a user equipment (UE) system in ~~[[TDD]]~~ Time Division Duplex (TDD) Wireless Communications, ~~characterized in that is~~ wherein the terminal comprises:

~~divider which divided~~ a divider for dividing a midamble into two parts;

a dot product unit which ~~[[do]]~~ performs an auto-correlation property operation between the two parts ~~mention above~~ and ~~[[the]]~~ a part corresponding to the local midamble to obtain two peaks that correspond to the midamble parts;

~~comparer which compare the~~ a comparator which compares an amplitude of each of the two peaks amplitude; and

~~[[the]]~~ a local timer which decided to advance or retard base on the result of the compare is advanced or retarded based on a comparison of the amplitudes of the two peaks~~[[;]]~~ said equipments connected one by one.

14. (Currently Amended) A terminal of a UE system in TDD Wireless Communications ~~[[of]]~~ as set forth in claim 13, ~~characterised in that~~ wherein said divider ~~who divided~~ divides the midamble into two parts ~~which having~~ in which each part has the same length.

15. (Currently Amended) A terminal of a UE system in TDD Wireless Communications ~~[[of]]~~ as set forth in claim 14, ~~characterised in that~~ wherein said midamble is divided into an odd part and an even part.

16. (Currently Amended) A terminal of a UE system in TDD Wireless Communications ~~[[of]]~~ as set forth in claim 13, characterised in that wherein said ~~comparer compare as~~ comparator makes a comparison in which: if the peak amplitude of the even part is higher than the peak amplitude of the odd part, ~~advance~~ the local timer is advanced by ΩT_c , if the peak amplitude of the odd part is higher than the peak amplitude of the even part, ~~advance~~ the local timer is advanced by $-\Omega T_c$, ~~[[here]]~~ where said Ω is a value set lower than ~~[[1]]~~ one (1), and T_c is ~~the times of a chip period~~.

17. (Currently Amended) A terminal of a UE system in TDD Wireless Communications ~~[[of]]~~ as set forth in claim 13, characterised in that wherein said midamble is ~~[[the]]~~ used to achieve a downlink synchronization.

18. (Currently Amended) A terminal of a UE system in TDD Wireless Communications ~~[[of]]~~ as set forth in claim ~~[[13]]~~ 16, characterised in that wherein said Ω is lower than ~~[[1/4]]~~ one fourth (1/4).

19. (New) A terminal of a UE system in TDD Wireless Communications as set forth in claim 13 wherein said terminal further comprises a triggering mechanism that comprises a first counter that provides a pulse indication and a second counter that provides a chip location indication.

20. (New) A terminal of a UE system in TDD Wireless Communications as set forth in claim 19 wherein said triggering mechanism further comprises a plurality of switches connected to the first counter and to the second counter wherein the plurality of switches operate in response to a pulse indication of the first counter and in response to a location indication of the second counter.